

REMARKS

In response to the above-identified Office Action, the Applicant has amended the application and respectfully request reconsideration thereof.

Claims 33-45 have been added. Claims 21-32 have been cancelled without prejudice. The Applicant respectfully submits that the amendments made herein do not add new matter.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 21-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,907,547 to Foladare, et al ("Foladare") in view of U.S. Patent No. 6,189,033 to Jin, et al. ("Jin") further in view of U.S. Patent No. 5,526,524 to Madduri ("Madduri"). During a Telephonic Interview with the Examiner on January 21, 2003, the Examiner agreed to withdraw all art cited with the exception of Foladare. Thus, only Foladare will be discussed below.

Foladare discloses a system for connecting customers with a limited number of customer service representatives using a confirmation queue scheme in which the queued person must confirm interest when reaching the end of the queue. If a customer clicks the "call me" button when all customer service representatives are busy with other callers, the customer is queued. When he reaches the end of the queue, confirmation is asked (the notification packet), and if he still wishes to talk to a customer service representative, a voice call or a data call, such as an IM session, is set up between them.

Thus, Foladare is about solving a people scarcity problem, i.e. the shortage of customer service representatives, by using a confirmation queue to set up a voice call between customers and service representatives. In a boilerplate line, Foladare adds that "the system may be used to establish communication links and telephone calls between parties other than merchants and customers." (Col. 8 Lines 26-28) This means that Foladare foresees using the disclosed system to connect people other than merchants and customers, such as librarians and researchers or directory assistance with people needing such assistance.

In contrast, the present invention implements a confirmation queue as a server-client connection protocol in a network environment. The connection request procedure is automated on the server side, and there are no people who are being scheduled using the queue. An example of the prior art in the server-client connection is the standard web server connection request. When a Web Client requests access to a Web Server (e.g., to access an HTML document), the Web Server either grants access and reserves buffers, or does nothing, and after a while the Web Client times out and informs its user that the connection failed. The present invention adds a confirmation queue to the connection protocol. The resource being scheduled in this automated connection protocol is a server access resource, such as a port.

Specifically, a few differences are pointed out in parentheses in relation to new independent claim 33, which requires: *receiving a connection protocol request from a client machine for a connection to a server machine* (whereas Foladare teaches receiving a request to communicate with a customer service operator);

determining that none of a plurality of physical connection resources of the server machine can accommodate the requested connection (whereas Foladare teaches determining that all operators are busy, not that physical ports are being used);

sending, to the client machine, a message to inform an operator of the client machine that the operator will be notified when the server machine can grant the requested connection;

queuing the received connection protocol request;

determining that at least one of the physical connection resources of the server can accommodate the requested protocol connection (whereas Foladare teaches that a customer service operator wishes to answer the communication request of a customer);

sending, to the client machine, a message to inform the operator of the client machine that the requested connection can be granted, and requesting a confirmation of the connection protocol request;

receiving the confirmation of the connection protocol request from the client machine, the confirmation being caused by the operator of the client machine; and

allowing the connection between the client machine and the server machine to be established according to the connection protocol (whereas Foladare teaches setting up a voice or data session between two people).


For at least the above reasons, claim 33 is allowable. Other independent claims have limitations similar to those of claim 33 and are therefore also allowable. Claims dependent on these allowable claims adding further limitations are also allowable. Therefore, claims 33-45 should now be allowed.

If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Adam Furst at (408) 947-8200 ext. 212.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

A marked up version of the claims is provided below.

Additions are indicated with “___” and deletions are indicated within “[].”

21. (Cancelled) [A method of queuing requests for a server coupled to a communication network, comprising the steps of:

- a) receiving a first request for services of a server from a user through the communication network;
- b) signaling the user, if insufficient server resources are available to process the request, wherein the user is queued for subsequent notification; and
- c) notifying the user once a sufficient amount of resources are available to process the request.]

22. (Cancelled) [The method of claim 21 further comprising the step of:

- d) establishing a connection between the user and the server, if sufficient resources are available to process the request.]

23. (Cancelled) [The method of claim 22, wherein the connection is established only if a second request is received from the user within a predetermined time after the notification of step c).]

24. (Cancelled) [The method of claim 21 wherein step b) includes the step of queuing users on an order of requests basis.]

25. (Cancelled) [The method of claim 21 wherein step b) includes the step of queuing users on a basis other than order of requests.]

26. (Cancelled) [The method of claim 21 wherein the communication network is a selected one of a local area network, an intranet, and an internet.]

27. (Cancelled) [The method of claim 21 wherein the communication network comprises a telephone line.]

28. (Cancelled) [A method comprising the steps of:

- a) receiving requests from a plurality of remote devices for access to a communications network;
- b) establishing connections between the communications network and a first group of the remote devices;
- c) sending a signal to the remaining remote devices for which a connection is not established indicating that a connection was not established; and
- d) queuing at least some of the remaining remote devices for subsequent notification of communication network availability.]

29. (Cancelled) [The method of claim 28 further comprising the step of:

- e) establishing a connection between the communications network and a selected one of the queued remote devices, if the selected queued remote device responds to the subsequent notification.]

30. (Cancelled) [A method of queuing requests to access a web server comprising the steps of:

- a) receiving requests by remote systems to access the web server;
- b) establishing connections between the web server and some of the remote systems;

c) sending a message to the remaining remote systems that a web server connection is not available; and

d) queuing at least one of the remaining remote systems for subsequent notification of web server availability.]

31. (Cancelled) [The method of claim 30, wherein the remaining remote systems are queued based on an internet protocol (IP) address of the remote system.]

32. (Cancelled) [The method of claim 30, further comprising the step of:

e) establishing a connection with a selected one of the remaining remote systems, if the selected remote system responds to the subsequent notification.]

33. (New) A method comprising:

receiving a connection protocol request from a client machine for a connection to a server machine;

determining that none of a plurality of physical connection resources of the server machine can accommodate the requested connection;

sending, to the client machine, a message to inform an operator of the client machine that the operator will be notified when the server machine can grant the requested connection;

queuing the received connection protocol request;

determining that at least one of the physical connection resources of the server machine can accommodate the requested connection;

sending, to the client machine, a message to inform the operator of the client machine that the requested connection can be granted, and requesting a confirmation of the connection protocol request;

receiving the confirmation of the connection protocol request from the client machine, the confirmation being caused by the operator of the client machine; and
allowing the connection between the client machine and the server machine to be established according to a connection protocol.

34. (New) The method of claim 33, wherein the connection protocol request comprises a Transmission Control Protocol (TCP) connection request.

35. (New) The method of claim 34, wherein the client machine comprises a Web Client and the server machine comprises a Web Server.

36. (New) The method of claim 33, wherein the plurality of physical connection resources comprise a plurality of connection ports.

37. (New) The method of claim 33, wherein receiving the confirmation of the connection protocol request comprises receiving an indication that the operator still wishes a connection between the client machine and the server machine to be established.

38. (New) A server machine comprising:

a processor;

a memory coupled to the processor;

a communication device coupled to the processor; and

a machine-readable medium coupled to the processor and having stored thereon a communication protocol which, when executed by the processor, causes the processor to:
receive, through the communication device, a connection protocol request from a client machine for a connection to a server machine, the server machine being coupled to the network using the communication device;

upon determining that none of a plurality of physical connection resources of the server machine can accommodate the requested connection, send a message to the client machine through the communication device to inform an operator of the client machine that the operator will be notified when the server machine can grant the requested connection;

queue the received connection protocol request using the memory;

upon determining that at least one of the physical connection resources of the server machine can accommodate the requested connection, send a message to the client machine through the communication device to inform the operator of the client machine that the requested connection can be granted and request a confirmation of the connection protocol request;

receive the confirmation of the connection protocol request from the client machine through the communication device; and

establish the connection between the client machine and the server machine.

39. (New) The server machine of claim 38, wherein the connection protocol request comprises a Transmission Control Protocol (TCP) connection request.

40. (New) The server machine of claim 39, wherein the client machine comprises a Web Client and the server machine comprises a Web Server.

41. (New) The server machine of claim 38, wherein the plurality of physical connection resources comprise a plurality of connection ports.

42. (New) A machine-readable medium having stored thereon data representing instructions that form a connection protocol, which, when executed by a processor, cause the processor to perform operations comprising:

receiving a connection protocol request from a client machine for a connection to a server machine;

determining that none of a plurality of physical connection resources of the server machine can accommodate the requested connection;

sending, to the client machine, a message to inform an operator of the client machine that the operator will be notified when the server machine can grant the requested connection;

queuing the received connection protocol request;

determining that at least one of the physical connection resources of the server machine can accommodate the requested connection;

sending, to the client machine, a message to inform the operator of the client machine that the requested connection can be granted, and requesting a confirmation of the connection protocol request;

receiving the confirmation of the connection protocol request from the client machine, the confirmation being caused by the operator of the client machine; and

allowing the connection between the client machine and the server machine to be established according to a connection protocol.

43. (New) The machine-readable medium of claim 42, wherein the connection protocol request comprises a Transmission Control Protocol (TCP) connection request.

44. (New) The machine-readable medium of claim 43, wherein the client machine comprises a Web Client and the server machine comprises a Web Server.

45. (New) The machine-readable medium of claim 42, wherein the plurality of physical connection resources comprise a plurality of connection ports.